

**UNITED STATES PATENT AND TRADEMARK OFFICE**

First Named Inventor: Yuriy Gmirya  
Serial No.: 10/621,129  
Filed: 16 July 2003  
Group Art Unit: 3655  
Examiner: Pang, Roger L.  
Title: Split-Torque Gear Box

**REPLY BRIEF**

Dear Sir:

This Reply Brief is in response to the Examiner's Answer mailed 9 November 2010. With respect, the Answer raises new issues which require a brief response. This Reply Brief does not supersede Appellant's previous arguments, nor does Appellant acquiesce to any of the Examiner's arguments that are not specifically addressed below. Appellant continues to rely on the Appeal Brief filed 27 September 2010.

**RESPONSE TO EXAMINER'S ARGUMENTS**

On page 8 of the Answer, the Examiner has characterized the arguments in the Brief as "Arguments A-D." Appellant's below remarks correspond to those headings.

**Argument A**

In the Final, the Examiner relied on the Figure 7 embodiment of *White* to anticipate the claims. (Final at 3). In the Brief, Appellant argued that *White* neither expressly nor inherently discloses the claimed "radially unsupported pinion shaft." (Brief at 4-7). In the Answer, the Examiner has done nothing to rebut this argument. Indeed, the Figure 7 embodiment of *White* does not disclose the claimed "radially unsupported pinion shaft," and thus there is no anticipation.

The Examiner's first argument is that *White*'s Figure 5 embodiment discloses a pinion shaft, and thus *White*'s Figure 7 embodiment discloses one also. This is not necessarily true, however. As noted in the Brief, *White*'s Figure 3 embodiment discloses a bevel gear 26 directly connected to a

pinion 27 without the use of a pinion shaft. Accordingly, *White* does not need a pinion shaft between its gears and its pinions. (Brief at 6).

The Examiner then essentially argues that the Figure 5 embodiment is somehow more analogous to the Figure 7 embodiment than the Figure 3 embodiment is. The Examiner explains that *White* describes both the Figure 5 and 7 embodiments as including gears with pinions “fixedly secured thereto.” The Examiner then notes that because Figure 5 includes a shaft, that Figure 7 also uses a shaft because of this similar “fixedly secured” language. There are several problems with this logic. Most notably is that the Figure 3 embodiment—which connects its bevel gear 26 to its pinion 27 without the use of a pinion shaft—also describes its bevel gear 26A as having a pinion 27A “fixedly secured thereto.” (*White* at col. 6, ll. 8-12). Accordingly, the Examiner’s reasoning ignores the possibility that a pinion “fixedly secured” to a gear could be “fixedly secured” without a shaft, as in Figure 3.

#### Argument B

Notwithstanding the fact that the Examiner has mischaracterized the argument in the Brief, the Examiner’s argument is essentially the same as above (e.g., that *White*’s Figure 7 embodiment discloses the claimed “radially unsupported pinion shaft”). (Answer at 12). Appellant maintains that *White*’s Figure 7 neither expressly nor inherently discloses the claimed pinion shaft.

#### Argument C

Dependent claim 24 depends from claim 1. Claim 1 recites that “said radially unsupported pinion shaft is displaceable off said common line to define a displacement envelope.” Claim 24 then defines that the displacement envelope is diamond shaped. Since *White* does not include a “radially unsupported pinion shaft” in the first place, *White* cannot be said to disclose a radially unsupported pinion shaft that is displaceable to define a diamond-shaped displacement envelope, as in claim 24.

The Examiner’s argument is that any movement of *White*’s components will produce a generally diamond shaped displacement envelope. (Answer at 14). What this misses is that the claims expressly recite that the radially unsupported pinion shaft defines the displacement envelope. Again, there is no such shaft in *White*.

#### Argument D

In the Final, the Examiner’s position was that it would have been obvious to modify *White* to include a double helical gear. (Final at 6-7). In the Brief, Appellant argued that since

*White* only drives one combining gear 100, that *White* has no need for a double helical gear. (Brief at 9-11). In light of this argument, the Examiner has now changed positions. In the Answer, the Examiner states that it would have been obvious to modify *White* to include both (1) a double helical gear and (2) a double combining gear. (Answer at 14-16).

As generally noted in the Brief, *White* includes a single combining gear, and thus one would not modify *White* to include a double helical gear. The Examiner has only modified *White* to include a double combining gear in order to allow the superfluous, second gear (e.g., the second of the two helical gears comprising the first double helical gear) to drive something. There is no other reason to modify *White* in this manner. Notably, *White* works perfectly well with a single combining gear. In this regard, the Examiner's rejection is pure hindsight, and is improper. (See MPEP § 2141). The Examiner has not otherwise explained how a double combining gear could be incorporated into *White's* system without rendering it inoperative, or without requiring a substantial redesign. (See MPEP § 2143.01).

Further, and as noted above and in the Brief, there is no prima facie case of obviousness because the Examiner improperly relies on *White* to address the claimed radially unsupported pinion shaft.

### CLOSING

For the above reasons, and for the reasons outlined in the Brief, the Examiner's decision to reject the claims should be reversed.

Respectfully Submitted,  
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